WHAT IS CLAIMED IS:

1. A digital processor responsive to a microinstruction to perform an operation, the digital processor comprising,

a memory for storing data associated with the operation to be performed;

a finite state machine (FSM) for performing a function in association with the operation; and

control circuitry for providing data to the register and for starting execution of the FSM in response to the microinstruction.

2. The digital processor of claim 1, further comprising

loop control circuitry for repetitively accessing the data stored in the memory.

3. The digital processor of claim 1, wherein the control circuitry includes

ID detection circuitry for determining that at least a portion of a microinstruction is to be implemented by the FSM.

4. The digital processor of claim 1, further comprising

a plurality of FSMs;

wherein the control circuitry includes

FSM execution circuitry to selectively invoke operation of one or more of the plurality of FSMs.

5. The digital processor of claim 1, further comprising

a configurable FSM;

wherein the control circuitry includes

configuration circuitry to direct the configurable FSM to be configured for a predetermined function associated with the microinstruction.

6. The digital processor of claim 1, wherein the memory includes a register.

7. The digital processor of claim 1, wherein the memory includes a microstore.

8. The digital processor of claim 1, wherein the memory includes a cache.

9. A computer processor for executing a microinstruction, the computer processor comprising

a finite state machine (FSM);

an iterative register; and

control circuitry for controlling the FSM and the iterative register to implement at least a portion of the microinstruction.

10. The computer processor of claim 9, wherein the FSM and iterative register are operated concurrently.

11. A method for executing a microinstruction, the method comprising using both a finite state machine and an iterative register to implement at least a portion of a function indicated by the microinstruction.